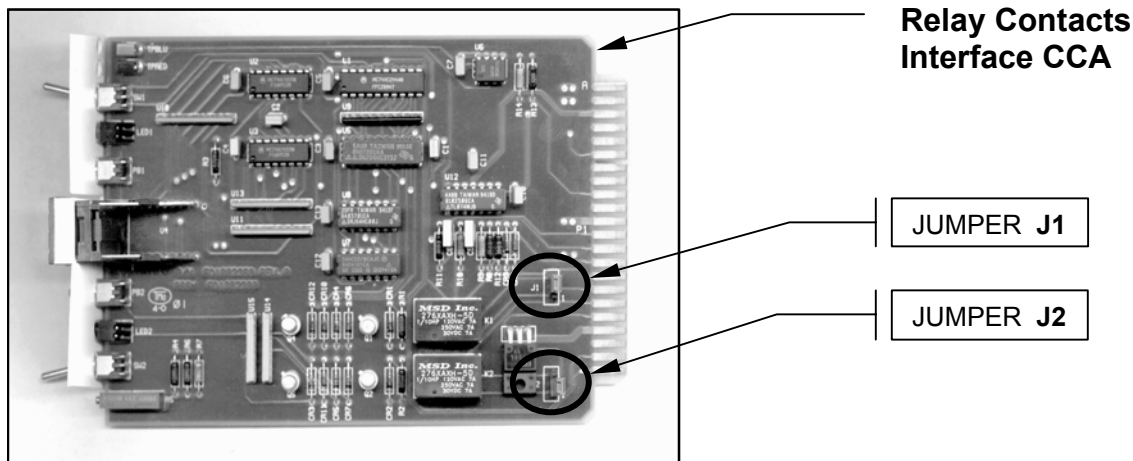


Ocean Engineering Technical Data Sheet VM100 Installation Guidelines

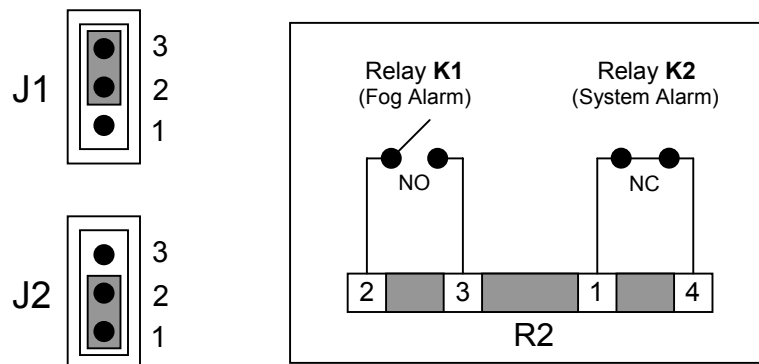
Presented here are key elements of VM100 fog detector setup. For complete guidance, please refer to the VM100 Technical Manual (CG7610-01-GL5-3401).

1. Orientation. Ensure the VM100 is pointing **north**; i.e., the transmitter/receiver tubes are pointing in the north direction (but not up). Care must be taken that the detector is **not** aimed south under any circumstances.
2. Hood. Ensure the protective hood is not installed backwards. Although the hood appears symmetrical from the sides, it is in fact asymmetrical and will cause problems if installed backwards. To ensure proper operation, be certain that the hood is installed with the extended overhang over the instrument end and **not** over the transmitter/receiver tubes (the extended end has the red manufacturer's identification stripe painted on both sides). If installed backwards, unwanted back scatter of the projected light from the extended overhang will result in erroneous visibility readings. Bird springs and/or spikes, however, should be mounted at the shorter transmitter/receiver tube end.
3. Calibration. Ensure the VM100 has undergone "Double Calibration:" As you proceed through the calibration process, ensure that the calibration number shown on the LED display of the Relay Contacts Interface CCA is double (2x) the calibration factor of your specific calibration box. However, this number must be between 4.0 and 6.0. See SMEF Advisory 96-6 (issued 10/96) for more details. Additionally, according to policy set forth in *M16500.7, Aids to Navigation Manual - Administration*, fog detectors are usually adjusted to energize the sound signal when visibility drops below three miles; however, in noise complaint areas, it may be necessary to reduce the visibility setting to a lesser range that will not compromise the operational requirement.
4. LEACMS Connections. If an LEACMS is installed and remote system audio/visual reset is intended, ensure the OPTO 22 I/O module for the remote system audio/visual reset function is an **ODC5R**, and not the ODC5. Also, if your aid system uses standard SACII modules for light and sound signal monitoring and control via an SDB, ensure that a Schottky diode is installed in-line going to the VM100 reset terminal (R1, Pin-4) according to latest revision to drawing 140411. These two items are addressed in Field Change #3 to the LEACMS.
5. Relay Contacts. There are three different applications using a VM100 in standard AtoN installations as presented in subparagraphs a., b., and c. below. Ensure the relay contact configuration is properly set up for your specific application by setting jumpers J1 and J2 accordingly. The ALARM and SYSTEM FAIL relay contacts are user configurable. Please see the Relay Contacts Interface CCA diagram and

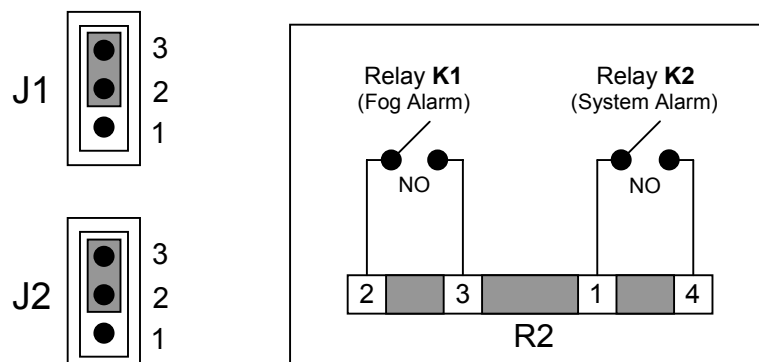
section 9.4 (relay outputs) in the VM100 Technical Manual for more detailed information.



a. For **solar powered Category I and II lighthouses**, set jumpers J1 and J2 as shown here to obtain the desired relay contact configuration. Please refer to standard drawing 140411 for system interconnection information.



b. For a **solar powered Category III lighthouse**, set jumpers J1 and J2 as shown here to obtain the proper relay contact configuration. Please refer to standard drawing 140413 for system interconnection information.



c. For ***lighthouses with an AVC and NAVAID Sensor Modules***, set jumpers J1 and J2 as shown here to obtain the proper relay contact configuration (please note that the jumper configuration for this case is identical to that of application a. above, solar cat I & II lighthouses). Please refer to standard drawing 130414, rev. B, for VM100/AVC/NAVAID Sensor interconnection information.

